REMARKS

This responds to the Office Action mailed on July 18, 2008.

Claim 1 is amended, no claims are canceled, and no claims are added; as a result, claims 1-4, 6-13, 36-39 and 41 are now pending in this application.

Telephonic Interview Summary

Applicant's representative, Benjamin Armitage, thanks Examiner Gregg Cantelmo for the telephonic discussion on August 25, 2008, during which we discussed proposed amendments to Claim 1.

§103 Rejection of the Claims

1) Claims 1, 3-4, 6-13, 35-38 and 40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kiefer, of record, in view of EP 1202365 (EP '365).

Applicants respectfully traverse the above rejection on the ground that no *prima facie* case of obviousness presently exists with respect to these claims. Not all elements of the claims are provided for in the cited references. Currently Amended Claim 1 includes "a plurality of electrodes that at least partially define interior walls of one or more channels of the electrochemical cell, wherein the electrolyte solution is disposed within the one or more channels." Neither the Kiefer reference, nor the EP '365 reference, describe a plurality of electrodes that at least partially define interior walls of one or more channels of an electrochemical cell and wherein the electrolyte solution is disposed within the one or more channels.

The Kiefer reference describes a proton-conducting polymer membrane obtainable by a process where a two-dimensional structure containing a mixture of a polymer and a vinyl-containing phosphonic acid is formed on a carrier and where the vinyl-containing phosphonic acid is polymerized to form the membrane. Kiefer describes conventional electrolyte sheet fabrication and does not disclose or contemplate a plurality of electrodes that at least partially define interior walls of one or more channels and the curable electrolyte composition disposed within such three-dimensional spaces.

The EP '365 reference describes an electrolyte membrane in which a graft polymer consisting of monomers each having an ion-exchange group is formed at least on the inner surfaces of the pores provided in a porous substrate such that the pores are substantially filled with the graft polymer(See paragraph [0017]). The EP '365 reference focuses on methanol fuel cells and a porous substrate that structurally supports a grafted polymer electrolyte. The electrodes described in EP '365 "sandwich" the membrane structure in a conventional way and do not describe a plurality of electrodes that at least partially define interior walls of one or more channels of an electrochemical cell and wherein the electrolyte solution is disposed within the one or more channels.

In addition, the EP '365 reference teaches away from embodiments of the present invention. A reference may be said to *teach away* when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path the applicant took. *In re Gurley*, 27 F.3d 551, 31 USPQ 2d 1130, 1131 (Fed. Cir. 1994); *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966); *In re Sponnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (C.C.P.A. 1969); *In re Caldwell*, 319 F.2d 254, 256, 138 USPQ 243, 245 (C.C.P.A. 1963). The structure of the membrane of EP '365 includes monomers that are graft-polymerized both on the surface and in the pores of the substrate to provide a stable structure for fuel cells endurable in a high-temperature environment (see paragraph [0035]). Therefore, EP '365 teaches away from embodiments of the present invention because the mixture would be unstable prior to forming the two-dimensional structure and polymerization of the vinyl-containing phosphonic acid in the structure to form a membrane.

Furthermore, even if the mixture of Kiefer were combined with the cell configuration of EP '365, the fuel cell of EP '365 would be rendered inoperable for its purpose. As stated above, the mixture would be unstable prior to forming the two-dimensional structure and polymerization of the vinyl-containing phosphonic acid in the structure to form a membrane.

Because currently amended claim 1 is believed to be in allowable condition, it is respectfully requested that the obviousness rejection be removed. Since claims 3-4, 6-13, 35-38 and 40 depend from claim1, they are believed to be in similarly allowable condition.

2) Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kiefer or in view of EP 1202365 (EP '365) as applied to claim 1 above, and further in view of U.S. Patent No. 5,425,687 (Singleton).

Applicant respectfully requests withdrawal of this rejection on the grounds discussed in **(1)** above, because neither Singleton, nor the accompanying reasoning in the Office Action, appear to cure the deficiencies noted above in **(1)**.

3) Claim 39 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kiefer or in view of EP 1202365 (EP '365) as applied to claim 38 above, and further in view of U.S. Patent No. 5,902,876 (Murata).

Applicant respectfully requests withdrawal of this rejection on the grounds discussed in **(1)** above, because neither Murata, nor the accompanying reasoning in the Office Action, appear to cure the deficiencies noted above in **(1)**.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at 612-373-6920 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date 9/8/08

By _____
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 8th day of September 2008.

CHERYL L. DANKERS

Name

Signature